REMARKS

Applicants have carefully reviewed and considered the Office Action mailed on October 20, 2005, and the references cited therewith.

Claims 90 and 94 are amended. Claim 124 is newly presented. Claims 1-89, 91-93, and 96-123 are canceled. As a result, claims 90, 94, 95 and 124 are now pending in this application.

35 U.S.C.112, 1st Paragraph, Rejection of the Claims

Claims 87, 89, 90, and 96-98 were rejected under 35 USC ¶112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention. However, the Examiner provided some claim language which would be patentable thereunder. Applicants have cancelled claims 87-89 and have newly presented claim 124, which is somewhat broader than claim 87, with language from page 46, first full paragraph. The "whereby" clause is amply supported by Tables I and II of gene expression associated with neurogenesis and blood cells, respectively.

Applicants are uncertain as to the meaning of the comment in the Office Action on page 3, lines 7-8, that: "For clarity, it is noted that culturing the cord blood mononuclear cells with retinoic acid and NGF does not fall within the scope of claim 87." By amendment, both compounds are mentioned in new claim 124. Further, the experiment on page 46 (lines 13-15) describes the use of not only retinoic acid and NGF, but also BDNF and GDNF. Hence, all these compounds are appropriately recited in claim 124.

The Office Action alleges that the specification fails to provide an enabling disclosure for the methods of making neural cell compositions because the only use is therapeutic transplantation and goes on to question the efficacy of such techniques and adequacy of guidance. The neural compositions are used in the well respected animal model rate MCAO model (or TBI), where Rotarod test and NSS "are generally used for the evaluation of the effects of the drugs on the behavioral responses after TBI and stroke in animals." (page 72, lines 2-8) In the Results section, the effect of the administration of treated umbilical cord cells was compared to treatment with traumatic brain injury alone at 14 and 28 days after TBI and HUBC treatment. Rotarod scores were significantly improved with NGF+RA HUBC treatment ($p<0.05$). Likewise, the neurological severity scores were also significantly improved with NGF+RA

The Office Action questioned whether the great variety of cell compositions has therapeutic benefit. Applicants believe that this rejection does not apply to new claim 124, so it is believed that this ground for rejection is now moot.

The Office Action points to the limited number of examples and limited guidance and alleges that it would be unpredictable whether the therapeutic effect would be present for all the cell compositions and undue experimentation would be required. Applicants believe that when the General Methods (page 37) are taken into account, Applicants have shown how to make and use the exemplary methods; and testing the rest of the compositions would be a matter of routine, following the teachings in the specification.

The Office Action commented on the description of the use of four trophic factors on page 58 and alleged that there was insufficient guidance as to how the factors were used, in combination, other combinations, cellular phenotype, etc. Applicants have clarified the use of those trophic factors, as claimed and explained above. The limited trophic factors now claimed were used to process the cells used in the animal model and to achieve significantly beneficial results. It is believed that grounds for rejection under 35 USC 112, 1st paragraph, may be withdrawn.

35 U.S.C. 112, 2d Paragraph, Rejection of the Claims

Claims 87, 89, 90 and 93-98 were rejected under 35 USC ¶112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Claims 87 and 89 and 96-98 have been cancelled, so their rejection is moot. Claims 90 and 94 now depend from claim 124, which recites retinoic acid, so it is believed that this rejection also is moot.

Claims 87, 89, 90 and 93-98 were considered indefinite because it was unclear what would be considered the reference state. Applicants respectfully call attention to the second statement on page 38, wherein: "total RNA obtained from human cord blood cells, with or without RA+NGF treatment, from different batches were pooled together for this experiment..." Thus, the specification delineates that the reference is untreated HUCB (without RA+NGF treatment); whereas, the test sample is RA+NGF-treated cord blood cells. Therefore, Applicants believe this ground for rejection may be withdrawn.